| Subject :- mathematics. | Experiment / Tutorial / Assignment No. :- 07. | Page :- 1. |

Q.1) Solve following problems with FIFO, LRU and Optimal page replacement method :-

→ Consider the page reference. 7,0,1,2,0,3,0,4,2,3,0,3,2 with frame size 4.

1) FIFO :-

→ * → this is a symbol of hit.

7	0	1	2	0	3	0	4	2	3	0	3	2
7	7	7	7	7	3	3	3	3	3	3	3	3
	0	0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	4	4	4	4	4	4
			2	2	2	2	2	2	2	2	2	2
				*		*		*	*	*	*	*.

Total No of fault page is = 6.
Total No of Hit page is = 7.

2) LRU

7	0	1	2	0	3	0	4	2	3	0	3	2
7	7	7	7	7	3	3	3	3	3	3	3	3
	0	0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	4	4	4	4	4	
			2	2	2	2	2	2	2	2	2	2
				*		*		*	*	*	*	*

Total No of fault page is :- 6.
Total No of HIT page is = 7.

3.) Optimal page Replacement :-

7	0	1	2	0	3	0	4	2	3	0	3	2
7	7	7	7	7	3	3	3	3	3	3	3	3
	0	0	0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	4	4	4	4	4	4
			2	2	2	2	2	2	2	2	2	2
			*		*		*	*	*	*	*	*

Total No of fault page is :- 6 .

Total No of Hit page is :- 7 .

Q.2) Consider the refrence string size is 12: 1,2,3,4,5,1,3,1,6,3,2,3 with frame size4.

Soluⁿ!:-

1) FIFO:-

1	2	3	4	5	1	3	1	6	3	2	3
1	1	1	1	5	5	5	5	5	5	2	2
	2	2	2	2	1	1	1	1	1	1	1
		3	3	3	3	3	3	6	6	6	6
			4	4	4	4	4	4	3	3	3
					*	*				*	

Total No of fault page is :- 9
Total No of HIT page is :- 3.

2) RLU:-

1	2	3	4	5	1	3	1	6	3	2	3
1	1	1	1	5	5	5	5	5	5	2	2
	2	2	2	2	1	1	1	1	1	1	1
		3	3	3	3	3	3	3	3	3	3
			4	4	4	4	4	6	6	6	6
					*	*		*		*	

Total No of fault page is :- 8.
Total No of HIT page is :- 4.

3) :- Optimal Page Replacement method.

1	2	3	4	5	1	3	1	6	3	2	3
1	1	1	1	1	1	1	1	6	6	6	6
	2	2	2	2	2	2	2	2	2	2	2
		3	3	3	3	3	3	3	3	3	3
			4	5	5	5	5	5	5	5	5
				*	*	*		*	*	*	

Total No of fault page is :- 6.
Total No of HIT page is :- 6.

Q.3) Consider the page refrence , 2, 3, 2, 1, 5, 2, 4, 5, 3, 2, 5 with frame Size 3.

Solu^n :-

1) FIFO :-

2	3	2	1	5	2	4	5	3	2	5
2	2	2	1	1	1	1	1	3	3	3
	3	3	3	5	5	5	5	5	2	2
		2	2	2	2	4	4	4	4	5
				*		*		*		

Total No of faulty page is :- 8

Total No of Hit page is :- 3.

2) LRU :-

2	3	2	1	5	2	4	5	3	2	5
2	2	2	1	1	1	4	4	4	2	2
	3	3	3	5	5	5	5	5	5	5
		2	2	2	2	2	2	3	3	3
				*		*			*	

Total No Of faulty page is :- 8

Total No of Hit page is :- 3.

3) optimal page Refrence :-

2	3	2	1	5	2	4	5	3	2	5
2	2	2	2	2	2	1	1	3	2	2
	3	3	1	5	5	5	5	5	5	5
		2	2	2	2	4	4	4	4	4
				*		*			*	

Total No of faulty page is :- 8 .

Total No of Hit page is :- 3.

Q.4) Consider the page refrence , 6, 0, 12, 0, 30, 4, 2, 30, 32, 1, 20, 15 with frank size 3:

Solu⁴:-

1) FIFO.

6	0	12	0	30	4	2	30	32	1	20	15
6	6	6	6	30	30	30	30	32	32	32	15
	0	0	0	0	4	4	4	4	1	1	1
		12	12	12	12	2	2	2	2	20	20
		*				*					

Total No of faulty page is :- 10.
Total no of hit page is :- 2.

2) LRU :-

6	0	12	0	30	4	2	30	32	1	20	15
6	6	6	6	30	30	30	30	30	30	20	20
	0	0	0	0	0	2	2	2	1	1	1
		12	12	12	4	4	4	32	32	32	15.
		*					*				

Total No of faulty page is :- 10.
Total No of Hit page is = 2.

3) optimal page Replacement .

6	0	12	0	30	4	2	30	32	1	20	15
6	6	6	6	30	30	30	30	32	32	32	15
	0	0	0	0	4	4	4	4	1	1	1
		12	12	12	12	2	2	2	2	20	20.
		*				*					

Total No of faulty page is :- 10.
Total No of Hit page is :- 2.

Q. 5.)

Consider the page reference 2,3, 2,1,5,2,4,5,3, 2,5,2 with frame size 3 .

Soln :-

1) FIFO

2	3	2	1	5	2	4	5	3	2	5	2
2	2	2	1	1	2	1	1	3	3	3	3
	3	3	3	5	5	5	5	5	2	2	2
		2	2	2	2	4	4	4	4	5	5
					*		*				*

Total No of faulty page is :- 9
Total No of Hit page is :- 3.

2) LRU.

2	3	2	1	5	2	4	5	3	2	5	2
2	2	2	1	1	1	4	4	4	4	5	5
	3	3	3	5	5	5	5	3	3	3	3
		2	2	2	2	2	2	2	2	2	2
					*		*		*		*

Total No of Faulty page is :- 8 .
Total No of Hit page is :- 4 .

3) optimal page Replacement :-

2	3	2	1	5	2	4	5	3	2	5	2
2	2	2	1	5	5	4	5	5	5	5	5
	3	3	3	3	3	3	3	3	3	3	3
		2	2	2	2	2	2	2	2	2	2
					*		*	*	*	*	*

Total No of faulty page is :- 7 .
Total No of Hit page is :- 5